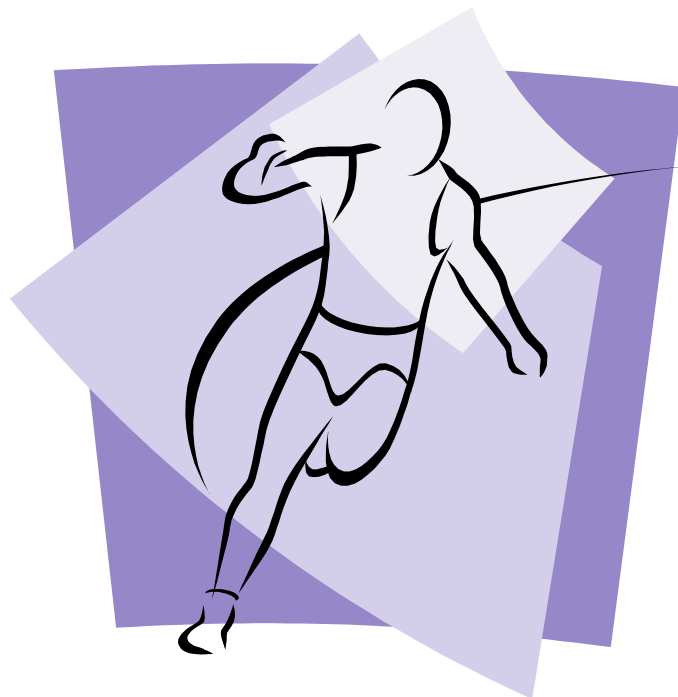


Sprinting 101

The word sprinting is defined as the fast paced movement of the legs and arms in rapid succession while maintaining control.

There are many different aspects, as well as, many different distances in sprinting. There is more to sprinting than just being the first one to the finish line. Over the course of the clinic we will spend a great deal of time on the physical, mental, and biomechanical aspects of the sprinting world.



Conditioning

For the sprinter the off season is just as important as the track & field season. This is the time period when coaches really get a chance to find out how much the sprinter wants to be successful. This is when athletes start to develop good training habits that will carry them through their season.

Off Season Training Consists Of:

- (1) 20-30 minute runs (preferably on grass)
- (2) Stretching and foam rolling to obtain flexibility
- (3) Running Hills
- (4) Swimming or aqua jogging
- (5) Weight Training
- (6) Body Weight Circuits
- (7) Dynamic Runs
- (8) Technical Development

Warm Up

The warm up is the most important part of your workout. This section should be taken very seriously because it sets the tone for the practice and/or race. The warm up starts to prepare your mind and body for the workout or race you are about to run.

A proper warm up should include the following sections:

- (1) Walking Barefoot: stretch and strengthen lower legs to prevent injury
 - * walk on heels, toes, inside/outside of foot
- (2) Skipping Exercises: warms the body while focusing on coordination
 - * skip forward/backwards with arm circles, punches, and hugs, as well as, carioka and side slide
- (3) Dynamic Flexibility: works on range of motion and flexibility on various parts of the body without compromising strength
 - * fire hydrants, iron cross, scorpions, high-low bicycle, and leg swings
- (4) Hurdle Mobility: works on hip flexibility, posture, and core strength
 - * step-overs, over-over-back, over-under, and straight leg skip overs
- (5) Sprint Drills: improve technique while running to improve efficiency
 - * A-Skip, marching runs, straight leg shuffle, ankling, and alternate fast leg
- (6) Accelerations (30-60 meters)

* These are only a few of the many exercises you will learn during your camp experience for each part of a proper warm up.

Sample Sprint Workouts

- (1) Warm Up (barefoot prep, skipping, dynamic flexibility, hurdle mobility)
- (2) Sprint Drills
- (3) Accelerations (4 X 30-60m)
- (4) Examples of good running workouts:
 - A. 10 X Cross Fields (also called diagonals)
 - B. 3 X 3 X 30m Hard Build Ups with 1' rest between reps and 3' between sets
 - C. 6 X 2/1/15 = (2' jog- 1' stride- 15" sprint)
 - D. 111, 112, 121, 211, 121, 112, 111 (1st set = 100m stride + 100m stride + 100m Stride, 2nd set = 100m stride + 100m stride + 200m stride, 3rd set = 100m stride + 200m stride + 100m stride)
Take 1' rest between sets and 3' rest between sets
 - E. Walk Backs on a track = run 100m walk back 50m, run 100m walk back 50m,
Keep doing this until you make it all the way around the track.
Hint: It will take seven 100m runs to make it all the way around.
- (5) Weight Training, Body Weight Circuit, or Core Exercises
- (6) Static Stretch

Examples of acceleration and maximum velocity workouts:

Acceleration Training Menu

Session A:

1. 3 x 10-15m falling start
2. 3 x 10-15m block start
3. 2 x 30-40m block start
4. 60m block start

Session B:

1. 3 x 30m w/ light tire pull
2. 3 x 30m (no tire)
3. 3 x stick drill
4. 3 x rolling relay start

Maximum Velocity Training Menu

Session A:

1. 3 X 30m blast w/ resistance
2. 3 X 30m blast w/out resistance
3. 3 X 30m Fly "Fly 30"

Session B:

1. 2 X 60m (rapid steps with good form)
2. 2 X 60m (fewest steps with good form)
3. 2 X 60m (normal cadence)

Weight Training

Weight training is a crucial part of any sprinter's workout program. Talent can only take you so far in the sport of track & field. Making yourself stronger and more powerful will result in huge benefits in your running career.

* Remember to lift for strength and power, not bulk. Use varying sets and reps as you move through your summer, fall, winter, and spring.

Hypertrophy = 3-4 sets of 8-10 reps. This will build lean muscle mass.

Absolute Strength = 4-5 sets of 6 reps. This will prepare you for power.

Power = 4-6 sets of 3-5 reps.

Below are some good examples of exercises you can use in the weight room:

Upper Body

- Bench Press
- Pull/Chin Ups
- Military Press
- Bicep Curls
- Tricep Extensions
- Lateral Pull Downs
- Dips

Lower Body

- Squats (full, $\frac{3}{4}$, $\frac{1}{2}$, $\frac{1}{4}$)
- Hamstring Curls
- Calf Raises
- Step Ups (with or without weight)
- Hip Flexor (raise and extension)
- Hip Abductor and Adductor

Core

- Crunches
- Side Ups
- Planks
- Curl Ups
- Hanging Knee Ups
- V-sits
- Leg Toss
- Back Hypers
- Prone opposite arm/leg

Power Lifts (only with coach or trainer)

- Power Clean
- Power Press
- Snatch
- Clean and Jerk
- Dead Lift

Body Weight Circuits

A

Push Ups
Prisoner Squats
V-sits
Back Hypers
Push Ups w/ clap
Dips
L-Overs
Leg Toss
Prone Opposite Arm/Leg
Crunches

B

Incline Push Up
Single Leg Squat
Crunches w/ twist
Decline Push Ups
Side Ups
Single Leg Calf Raises
Front Lunges
V-sits
Rocket Jumps
4 Count Thrusts

Circuit Workout

10 prisoner squats
10 front lunges
20 wide outs
20 crunches
-----3 X 50m Build Ups with a skip return
10 side lunges
10 kneeling trail leg circles (forward)
10 kneeling trail leg circles (backwards)
10 fire hydrants
-----3 X marching runs with backwards skip return
20 Scissor Splits
10 Donkey Kicks
10 Lead Leg Lifts
20 Lateral Splits
-----3 X 50m Build Ups with side slide return
10 ankle pops
10 mogul jumps
10 push ups with clap
20 In Place A skips
-----3 X 50m “Blasts” with walk return

The Start

A) Blocks

(1) Setting the Blocks

- (a) approximately 2 steps to front block and 3 steps to back block
- (b) front block pedal at 45 degrees and back pedal at 55 degrees

(2) Ready Position

- (a) hands just over shoulder width apart in front of starting line
- (b) shoulders go directly over the hands (arms perpendicular to the ground)
- (c) front shin should be parallel to the ground
- (d) front knee should not be in front of elbow
- (e) head should be relaxed

(3) Set Position

- (a) front leg 90 degrees
- (b) back leg 115-135 degrees (back leg can vary from person to person)
- (c) raising the hips should move the shoulders slightly ahead of the hands
- (d) weight should still be on front foot, not on your hands.
- (e) Head still relaxed

(4) Block Clearance

- (a) Drive completely off the front block
- (b) Should have large separation of the arms
- (c) Lead leg should create a "Hard Z"
- (d) Head, shoulders, hips, knees, and ankle should create a straight line if block clearance is done correctly

B) Drive Phase

- (a) continue to run/march ("Hard Z")
- (b) legs should move through a full range of motion like pistons in a car.
- (c) Body should naturally start to rise into an upright position over the next 10-15 meters if done correctly.

Race Plans

100 meters

- (1) Starting Block (set up)
- (2) Starting Block Clearance (0-5 meters)
- (3) Drive Phase/Acceleration (5-15 meters)
- (4) Transition (15-30 meters)
- (5) Maximum Velocity (30-60 meters)
- (6) Speed Maintenance (60-100 meters)

200 meters

- (1) Starting Block (set up)
- (2) Starting Block Clearance (0-5 meters)
- (3) Drive Phase/Acceleration (5-80 meters)
- (4) Maximum Velocity (80-150 meters)
- (5) Speed Maintenance (150-200 meters)

400 meters

- (1) Starting Block (set up)
- (2) Starting Block Clearance (0-5 meters)
- (3) Drive Phase Acceleration (5-50 meters)
- (4) Find your rhythm coming through the 200m at 1.5-2.5 seconds slower than your 200m personal best
- (5) Last 150m is the critical zone for the 400m race
- (6) Increase effort to maintain speed
- (7) Maintain form through the finish line

Nutrition

What is a serving size?

- 1 cup
- 228 grams
- 4oz
- About the size of the palm of your hand

Calories

The word calorie simply means energy.

- Female need about 1,800-2,200 calories a day
- Males need about 2,400-2,800 calories a day

Carbohydrates

- This is the main source of energy for the body.
- 3 types of carbs
 1. simple carbohydrates: are easy to break down and can turn into fat
 2. complex carbohydrates: more complex structure (last longer)
 3. fiber: this can't be digested, but is used to help digest food
- 55-65% of calories should come from carbs
- Sources of Carbs:
 - Fiber: bran, rice, oatmeal, corn tortillas, and popcorn
 - Complex: veggies, legumes, pasta, nuts, and breads
 - Simple: sweet desserts, candy, and soft drinks
- The number of carbohydrates you can consume on a daily basis depends on how many calories you intake in a day. For a person that is just doing a regular amount of activity (intaking between 1,600 calories and 2,200), carbohydrate intake is more (around 65%) whereas fat intake is lower (20%) but if the person has a higher calorie intake such as 3,000-4,000 that does long-distance running, etc...the person will need less carbohydrates (55%) and more fats (30% . There isn't a raw number of carbohydrates to intake because the amount of exercise a person does depends essentially how much aerobic activity is done. For athletes, the most important carbohydrate is the complex ones (glycogen) such as oats, fruits, vegetables...anything fiber mainly, potatoes, pasta, bread, cereal. But you have to watch out, carbohydrates are easily over-consumed.

Proteins

- Your body uses proteins mainly for building, repairing, and maintaining all body tissues.
- You need protein to keep on living!!!
- Types of Proteins:
 1. Amino Acids: chains that make up proteins
 - a. your body makes all but 9 out of the 20 essential amino acids
 - b. the 9 others are called essential amino acids because you need to get them from foods you eat.
 - c. Foods: nuts, meats, and legumes
 2. Eat foods high in protein. Eat as many as possible.

How to Calculate Your Protein Needs:

1. Weight in pounds divided by 2.2 = weight in kg
2. Weight in kg x 0.8-1.8 gm/kg = protein gm.

Use a lower number if you are in good health and are sedentary. Use a higher number (between 1 and 1.8) if you are under stress, are pregnant, are recovering from an illness, or if you are involved in consistent and intense weight or endurance training.

Example: 154 lb male who is a regular exerciser and lifts weights
 $154 \text{ lbs} / 2.2 = 70 \text{ kg}$
 $70 \text{ kg} \times 1.5 = 105 \text{ gm protein/day}$

Fats

2 types of fats:

- Saturated: bad fats that are solids at room temperature
- Unsaturated: Good fats that are liquid or oil at room temperature
- 30% of your daily calorie intake should come from fats.
- Visible Fats: butter, margarine, oil, meat, and poultry
- Hidden Fats: chocolate, nuts, egg yolks, ice cream, cheeses, and doughnuts
- You need 65 grams of fat per day. NOT EACH MEAL!!!

Cholesterol

- Cholesterol is a fat-like substance
- Cholesterol is used to produce some hormones and use Vitamin D

Vitamins

- Water Soluble Vitamins: Vitamins B and C are water soluble because they dissolve in water. They can't be stored, excreted by urine.
 1. Vitamin B: Support and increase the rate of **metabolism**. Maintain healthy skin and muscle tone. Enhance **immune** and **nervous system** function. Promote **cell growth** and **division** — including that of the **red blood cells** that help prevent **anemia**
 2. Vitamin C: protects against infection. Comes from citrus fruits and some veggies. Helps prevent Scurvy. Acts as an antioxidant.
- Fat Soluble Vitamins: Vitamins A, D, E, and K are Fat Soluble. The body can store these in fatty tissue.
 1. Vitamin A: helps keep bones strong. Comes from milk and other dairy, as well as, veggies and meats. Vitamin A will help prevent Rickets.
 2. Vitamin D: promotes absorption of calcium. Comes from meats, eggs, milk, fortified foods, and the sun.
 3. Vitamin E: Antioxidants such as vitamin E act to protect your cells against the effects of free radicals, which are potentially damaging by-products of energy metabolism. Free radicals can damage cells and may contribute to the development of cardiovascular disease and cancer.
 4. Vitamin K: Plays an important role in blood clotting. Comes from green leafy veggies and meats.

Minerals

Minerals aren't made in the body. You get these essential substances from foods.

1. Calcium: Building materials for bones and teeth, as well as blood clotting. From dairy and leafy veggies.
2. Iron: Important for cellular respiration (red blood cells). From liver, meat, shellfish, eggs, and nuts.
3. Sodium: regulates blood pressure and blood volume. Keep under 3,000mg per day.
4. Potassium: balances water and acid in the blood and body tissues. Potassium is also important for building muscle and metabolizing protein and carbohydrate.
5. Zinc: a trace mineral, is important to maintain your body's immune system functioning.

Water

Water is the body's most essential nutrient. Only oxygen is more important to life.

- Need to drink 6-12 8oz.glasses of water or its equivalent a day.
Example: 2 – 40oz Nalgene bottles
- No Dehydration. Slows the body down.

Notes